

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/647,468	ABE, OSAMU	
	Examiner Terry L. Englund	Art Unit 2816	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to Am dt (Apr 4, 2006) and Interviews (Apr 10-11, 2006).
2.  The allowed claim(s) is/are 1, 3, 5-6, 8-10, 12-13, 16-17, 19, 22-23, 26, and 29 (now renumbered for printing purposes).
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date 04112006.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to the applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with the applicant's representative Sean M. McGinn (Reg. No. 34,386) on Apr 11, 2006.

The application has been amended as follows:

Claim 1, line 8: changed "implementation" to --implantation--;

Claim 5, line 8: changed "implementation" to --implantation--;

Claim 10, line 7: changed "implementation" to --implantation--;

Claim 12, line 7: changed "implementation" to --implantation--;

Claim 13, line 2: changed "pair of cascaded transistors" to --transistor--; changed  
"implementation" to --implantation--;

Claim 17, line 14: added --and-- after "amplifier,";

line 18: changed "implementation" to --implantation--;

line 19: changed "terminal;" to --terminal, wherein--;

Claim 19, line 14: added --and-- after "amplifier,".

line 17: changed "implementation" to --implantation--; and

Claim 23, line 2: changed "implementation" to --implantation--.

The term "implementation" was changed to --implantation-- in each of claims 1, 5, 10, 12, 13, 17, 19, and 23 to address an inadvertent spelling change within the applicant's Apr 4<sup>th</sup>

amended claims. For example, “implantation” had been cited in the original disclosure on pages 11 (line 11), 17 (line 14), and 39 (line 7), as well as in original claims 4 and 7. Also, the phrase “ion implantation resistor” was part of the phrasing deleted from the last line of each of claims 1, 5, 10, 12, 17, and 19 when the claims were changed by the Apr 4<sup>th</sup> amendment. Therefore, one of ordinary skill in the art would understand “implementation” related to a spelling oversight within the amended claims. Claim 13 was also amended to address an antecedent type problem. [For example, its phrase “said second pair of cascaded transistors” would have been proper if claim 13 had depended on claim 12 instead of claim 10. However, claim 13’s dependency was not changed by this Examiner’s Amendment because the claim would have then duplicated claim 23. Therefore, claim 13’s “second pair of cascaded transistors” phrase was amended to clearly relate back to the single “second transistor” actually recited within claim 10.] The change to line 14 of both claims 17 and 19 address the inadvertent removal of “and” by the applicant’s amendment. With the term added back in, a clearer indication is provided for when the last limitation (e.g. “an ion implementation resistor”) is being recited. For example, without that particular “and” term, it would not be clear within the claims if all the intended limitations had actually been recited. One other change to claim 17 (i.e. on line 19) helps relate the “voltage supply circuit” limitations on lines 20-23 back with some other limitations already recited within the claim.

None of these changes affect the scope of the intended claim limitations. They merely address oversights one of ordinary skill in the art would understand.

### **RESPONSE TO AMENDMENT**

The amendment submitted on Apr 4, 2006 was reviewed and considered with the following results:

The amended paragraph overcame its objection described in the previous Office Action, with that objection now withdrawn.

Amended claim 5 overcame the objections to claims 5-6, and 9 as described in the previous Office Action. Although those objections were also withdrawn, it was noted that the previous use of "implantation" within some claims had inadvertently become "implementation" within eight of the amended claims. This spelling related oversight was addressed/corrected by the Examiner's Amendment described above.

The cancellation of claims 14, 20, 24, and 27 rendered their respective rejection(s) moot.

The amended claims overcame all of the previous Office Action's rejections of claims 1, 3, 5-6, 8-10, 12-13, 16-17, 19, 22-23, 26, and 29 under 35 U.S.C. 112. Although those rejections were all withdrawn, several new concerns were identified within amended claims 13, 17, and 19. However, these concerns were also addressed/corrected by the Examiner's Amendment described above.

Therefore, there is no known objection or rejection remaining within the present application.

### **REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance:

None of the prior art references reviewed and considered shows or discloses a band gap circuit as recited within independent claims 1, 5, 10, 12, 17, and 19. More specifically, none of

the references clearly shows or discloses a band gap circuit comprising a switching element for causing excess current flow from the circuit output terminal, and the “ion implantation resistor having a capacitive component” as recited now within claims 1 (upon which claims 3 and 8 depend), 5 (upon which claims 6 and 9 depend), 10 (upon which claims 13 and 16 depend), 12 (upon which claims 23 and 26 depend), 17 (upon which claim 22 depends), and 19 (upon which claim 29 depends). For example, the “ion implantation resistor” is 1) included in the “first circuit” of claims 1, 5, 10, and 12, wherein the “first circuit” causes a potential difference in response to voltage fluctuations on the circuit output terminal; or 2) connected to the circuit output terminal as recited within claims 17 and 19. Since there is no strong motivation to modify or combine any prior art reference(s) to ensure all of the limitations recited within any one of the independent claims are met, the claims are deemed patentably distinct over the prior art of record.

Claims 1, 3, 5-6, 8-10, 12-13, 16-17, 19, 22-23, 26, and 29 are allowed, and have been renumbered as 1, 3, 4, 6, 2, 5, 7, 10, 8-9, 13, 15, 14, 11-12, and 16, respectively for printing purposes. The renumbering takes into account the cancellation of claims 2, 4, 7, 11, 14-15, 18, and 20-21. It also regroups related claims closer together. For example, claims 3 and 8 depend on claim 1; claims 6 and 9 depend on claim 5; claims 13 and 16 depend on claim 10; claims 23 and 26 depend on claim 12, claim 22 depends on claim 17, and claim 29 depends on claim 19.

Any comments considered necessary by the applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

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Any inquiry concerning this communication, or previous communications, from the examiner should be directed to Terry L. Englund whose telephone number is (571) 272-1743. The examiner can normally be reached Monday-Friday from 7 AM to 3 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (571) 272-1740.

The new central official fax number is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1562.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*TLE*  
Terry L. Englund  
11 April 2006

*Terry D. Cunningham*  
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Primary Examiner